

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AFFYMETRIX, INC.,

Plaintiff/Counter-
Defendant,

v.

ILLUMINA, INC.,

Defendant/Counter-
Plaintiff.

C.A. No. 04-901-JJF

REDACTED VERSION

**AFFYMETRIX, INC.'S BRIEF IN SUPPORT OF ITS MOTION FOR SUMMARY
ADJUDICATION ON ILLUMINA, INC.'S THIRD AND SEVENTH
AFFIRMATIVE DEFENSES AND SECOND COUNTERCLAIM**

MORRIS, NICHOLS, ARSHT & TUNNELL LLP

Jack B. Blumenfeld (#1014)
Maryellen Noreika (#3208)
1201 N. Market Street
P.O. Box 1347
Wilmington, DE 19899-1347
(302) 658-9200
*Attorneys for Plaintiff/Counter-Defendant
Affymetrix, Inc.*

OF COUNSEL:

Michael J. Malecek
Daniel R. Reed
George C. Yu
Andrea L. Gross
AFFYMETRIX, INC.
6550 Vallejo Street, Suite 100
Emeryville, CA 94608
(510) 428-8500

Original Filing Date: July 7, 2006

Redacted Filing Date: July 24, 2006

TABLE OF CONTENTS

	<u>Page</u>
TABLE OF CITATIONS	ii
I. INTRODUCTION	ii
II. UNDISPUTED FACTS	2
A. Dr. Chee at Affymetrix and the ‘716 Patent	2
B. Dr. Chee Founds Illumina.....	3
C. Dr. Chee and Illumina’s Genotyping Software.....	5
D. Dr. Chee and Illumina’s Grant Applications	7
E. Other Affymetrix Employees Join Illumina	8
III. ARGUMENT	8
A. Legal Standard for Summary Judgment	8
B. Assignor Estoppel Precludes Illumina from Challenging the Validity of the ‘716 Patent	9
1. The Doctrine of Assignor Estoppel.....	9
2. Assignor Estoppel Applies to Dr. Chee	10
3. Illumina is in Privity with Dr. Chee and is also Estopped From Challenging the Validity of the ‘716 Patent	11
IV. CONCLUSION.....	17

TABLE OF AUTHORITIES

<u>Cases</u>	<u>Page(s)</u>
<i>Anderson v. Liberty Lobby, Inc.</i> , 477 U.S. 242 (1986).....	9
<i>Carroll Touch, Inc. v. Electro Mech. Sys., Inc.</i> , 15 F.3d 1573 (Fed. Cir. 1993).....	12
<i>Cedarapids, Inc. v. Johnson Crushers Int'l, Inc.</i> , 2005 WL 2086755 (M.D. Tenn. Aug. 26, 2005)	15
<i>Diamond Scientific Co. v. Ambico, Inc.</i> , 848 F.2d 1220 (Fed. Cir. 1988).....	passim
<i>Intel Corp. v. United States Int'l Trade Comm'n</i> , 946 F.2d 821 (Fed. Cir. 1991).....	12, 13, 16
<i>Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.</i> , 475 U.S. 574 (1986).....	9
<i>Mentor Graphics Corp. v. Quickturn Design Sys., Inc.</i> , 150 F.3d 1374 (Fed. Cir. 1998).....	1, 9, 10, 11
<i>Shamrock Techs., Inc. v. Medical Sterilization, Inc.</i> , 903 F.2d 789 (Fed. Cir. 1990).....	passim
<i>Synopsys, Inc. v. Magma Design Automation, Inc.</i> , 2005 WL 1562779 (N.D. Cal. July 1, 2005).....	13
 <u>Rules</u>	
FED. R. CIV. P. 56(c).....	8

I. INTRODUCTION

Dr. Mark Chee began his career at Affymetrix, where he learned the science of DNA microarrays. During his employment at Affymetrix, Dr. Chee made several inventions relating to DNA microarrays and their analysis, including U.S. Patent No. 5,795,716 (the “‘716 patent”). The ‘716 patent claims computer programs and methods for making “base calls,” also known as genotyping, in genetic samples. After assigning his inventions, Dr. Chee left Affymetrix and founded Illumina.

REDACTED

He received over 900,000 shares of Illumina stock. He served as Illumina’s Vice President of Genomics until June 2002. He is a named inventor on 14 of Illumina’s 20 issued United States patents.

REDACTED

Affymetrix previously moved to dismiss under the doctrine of assignor estoppel Illumina’s counterclaim and affirmative defense contesting the validity of the ‘716 patent. (D.I. 13.) Affymetrix argued that Dr. Chee is estopped from challenging the validity of a patent that he assigned and that Illumina is in privity with Dr. Chee given his founding role at Illumina and important contributions to the infringing technology. On September 16, 2005, the Court denied the motion, finding that it was premature to resolve the issue before the factual record had been developed. (D.I. 69.) After months of discovery, the factual record has now been fully developed and confirms that “the nature of their relationship in light of the alleged infringement” is such that Illumina must be found to be in privity with Dr. Chee. *Mentor Graphics Corp. v. Quickturn Design Sys., Inc.*, 150 F.3d 1374, 1379 (Fed. Cir. 1998). Therefore, Affymetrix respectfully requests that the Court grant summary adjudication on Count II of Illumina’s

Counterclaims insofar as it seeks a declaration of invalidity and unenforceability of the ‘716 patent. Affymetrix also requests that the Court grant summary adjudication on Illumina’s Third Affirmative Defense (Invalidity) and Seventh Affirmative Defense (Inequitable Conduct) as they apply to the ‘716 patent.

II. UNDISPUTED FACTS

A. Dr. Chee at Affymetrix and the ‘716 Patent

REDACTED

During his four-year career at Affymetrix, Dr. Chee rose to the position of Director of Genetics Research. (Exh. 1.)

REDACTED

During his employment at Affymetrix, Dr. Chee made several inventions, including the ‘716 patent. The ‘716 patent is titled “Computer-Aided Visualization And Analysis System For Sequence Evaluation” and is directed to computer programs and systems for genotyping. On February 24, 1995, Dr. Chee assigned his rights in the invention underlying the ‘716 patent to Affymax Technologies N.V. (Exh. 3.) Affymax later assigned the patent to Affymetrix. (Exh. 4.) In connection with the ‘716 patent, Dr. Chee also executed a declaration stating that he was the inventor of the applicable invention. (Exh. 5 (“I believe I am an original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled: Computer-Aided Visualization And Analysis System For Sequence Evaluation. . .”).)

Claim 1 is a representative claim from the '716 patent:

A computer program product that identifies an unknown base in a sample nucleic acid sequence, comprising:

computer code that receives a plurality of signals corresponding to probe intensities for a plurality of nucleic acid probes, each probe intensity indicating an extent of hybridization of a nucleic acid probe with at least one nucleic acid sequence including said sample sequence, and each nucleic acid probe differing from each other by at least a single base; computer code that performs a comparison of said plurality of probe intensities to each other;

computer code that generates a base call identifying said unknown base according to results of said comparison and said sequences of said nucleic acid probes; and

a computer readable medium that stores said computer codes.

(Exh. 6.) The claimed invention of the '716 patent relates to computer programs that call bases in a genetic sample using intensity signals from nucleic acid probes after hybridization. One way to obtain such signals is to use probes in a DNA microarray. One would hybridize a sample sequence to the microarray using a particular type of assay (or experimental protocol).

Affymetrix contends that the base-calling algorithms in Illumina's GenCall¹ software, used in conjunction with Illumina's DNA microarrays and genotyping assays, infringe claim 1 (and other claims) of the '716 patent.

B. Dr. Chee Finds Illumina

After assigning his inventions, Dr. Chee left Affymetrix and co-founded Illumina. (Exh. 2, Chee Depo. at 160:4-6; Exh. 7 at 6 ("Mark S. Chee, Ph.D., one of our founders, has served as our Vice President of Genomics since June 1998. Prior to founding Illumina, Dr. Chee served as Director of Genetics Research at Affymetrix, a life sciences company, from April 1997 to July

¹

REDACTED (Exh. 12, Kermani Depo. at 113:3-114:12.) For simplicity, Affymetrix will refer to the software as "GenCall."

1997 and in other positions from 1993 to April 1997.”.)

REDACTED

In exchange for founding Illumina and developing its technology, Dr. Chee received over 900,000 shares of Illumina stock. (Exh. 7 at 7.) This allotment made Dr. Chee the second largest individual shareholder in Illumina (just behind co-founder Dr. David Walt). (Exh. 2, Chee Depo. at 181:2-8.)

In his role as Vice President of Genomics, Dr. Chee made important contributions to the development of Illumina’s technology. For example, he is a named inventor on 14 of Illumina’s 20 issued United States patents. *See* <http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fmetahtml%2FPTO%2Fsearch-bool.html&r=0&f=S&l=50&TERM1=illumina&FIELD1=ASNM&col=AND&TERM2=&FIELD2=&d=PTXT> (query run on July 6, 2006).

REDACTED

REDACTED

Dr. Chee served as Vice President of Genomics until June 2002, when he became an Illumina research fellow.⁴ He left Illumina in September 2004.

C. Dr. Chee and Illumina's Genotyping Software

Affymetrix alleges that the base-calling algorithms in Illumina's GenCall software and associated technology infringe the '716 patent.

REDACTED

3

REDACTED

4

After becoming a research fellow, Dr. Chee continued to work on important matters for Illumina. Specifically, Dr. Chee focused on Illumina's HapMap grant, which served as a validation of Illumina's commercial DNA microarray technology.

Illumina continued to identify Dr. Chee on its website as a member of senior management until after he resigned in 2004. REDACTED

REDACTED

⁵ REDACTED

⁶ REDACTED

REDACTED

D. Dr. Chee and Illumina's Grant Applications

Dr. Chee also played a crucial role in Illumina's grant applications and the work performed thereunder.

REDACTED

REDACTED

REDACTED

E. Other Affymetrix Employees Join Illumina

In addition to Dr. Chee, several other Affymetrix employees left Affymetrix to join Illumina. Two of them, Dr. Kevin Gunderson and Dr. Jian-Bing Fan, had previously worked under Dr. Chee's supervision while they were all employed by Affymetrix. (Exh. 2, Chee Deposition at 34:9-35:6.) Dr. Gunderson and Dr. Fan both worked on assay development for Affymetrix. (Exh. 8, Gunderson Depo. at 52:3-13; Exh. 19, Fan Depo. at 125:2-8; 170:13-17.)

REDACTED

The Infinium and GoldenGate assays are Illumina's only commercial genotyping assays. The GenCall software is used at the end of each of these assays to generate a genotyping call.

III. ARGUMENT

A. Legal Standard for Summary Judgment

A party is entitled to summary judgment if the Court determines from its examination of "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any," that there are no genuine issues of material fact and that the moving party is entitled to judgment as a matter of law. FED. R. CIV. P. 56(c).

To defeat a motion for summary judgment, Rule 56(c) requires the non-moving party to show that there is more than:

Some metaphysical doubt as to the material facts. . . . In the language of the Rule, the non-moving party must come forward with “specific facts showing that there is a genuine issue for trial” Where the record taken as a whole could not lead a rational trier of fact to find for the non-moving party, there is “no genuine issue for trial.”

Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp., 475 U.S. 574, 586-87 (1986). Thus, a mere scintilla of evidence in support of the non-moving party is insufficient for a court to deny summary judgment. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 252 (1986).

B. Assignor Estoppel Precludes Illumina from Challenging the Validity of the ‘716 Patent

Dr. Chee, as the inventor and assignor of the invention claimed in the ‘716 patent, is estopped from challenging the validity of that patent. Illumina – the company that Dr. Chee founded and for whom he made significant scientific contributions – is considered to be in privity with Dr. Chee for purposes of the assignor estoppel doctrine.

REDACTED

Illumina unquestionably “availed itself of [Dr. Chee’s] ‘knowledge and assistance’ to conduct infringement.” *Shamrock Techs., Inc. v. Medical Sterilization, Inc.*, 903 F.2d 789, 794 (Fed. Cir. 1990) (quoting *Mellor v. Carroll*, 141 F. 992, 994 (C.C.D. Mass. 1905)). Therefore, Illumina is similarly precluded from contesting the validity of the ‘716 patent.

1. The Doctrine of Assignor Estoppel

The Federal Circuit recognized the assignor estoppel doctrine in *Diamond Scientific Co. v. Ambico, Inc.*, 848 F.2d 1220 (Fed. Cir. 1988). “Assignor estoppel is an equitable doctrine that prevents one who has assigned the rights to a patent (or patent application) from later contending that what was assigned is a nullity.” *Id.* at 1224; *see also Mentor Graphics Corp. v. Quickturn*

Design Sys., Inc., 150 F.3d 1374, 1377 (Fed. Cir. 1998) (“Assignor estoppel prevents a party who assigns a patent to another from later challenging the validity of the assigned patent.”). Courts have applied assignor estoppel to invalidity challenges based on novelty, utility, patentable invention, anticipatory matter, and state of the art.⁷ *Diamond Scientific*, 848 F.2d at 1224.

When an inventor assigns his invention, that “assignment contains an ‘implicit representation by the assignor that the patent rights that he is assigning (presumably for value) are not worthless.’” *Mentor Graphics*, 150 F.3d at 1377 (quoting *Diamond Scientific*, 848 F.2d at 1224). “Without exceptional circumstances (such as an express reservation by the assignor of the right to challenge the validity of the patent or an express waiver by the assignee of the right to assert assignor estoppel), one who assigns a patent surrenders with that assignment the right to later challenge the validity of the assigned patent.” *Id.* at 1378.

2. Assignor Estoppel Applies to Dr. Chee

As discussed above, Dr. Chee is a named inventor on the ‘716 patent. During the course of prosecution of that patent, Dr. Chee signed an inventor’s oath stating that he was “an original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention” claimed in those patents. (Exh. 5.) Dr. Chee also assigned the patent application to Affymax “[f]or good and valuable consideration.” (Exh. 3 at AVI_118799.)⁸

Given that Dr. Chee is a named inventor on the ‘716 patent, signed an inventor’s oath, and assigned the invention for valuable consideration, he is estopped from challenging the

⁷ The Federal Circuit has also applied the assignor estoppel doctrine to preclude assertion of the defense of inequitable conduct. *See, e.g., Shamrock Techs.*, 903 F.2d at 794-95 (“If we were to hold otherwise, *Diamond Scientific* could be avoided by merely couching invalidity defenses in terms of inequitable conduct, precisely as appellants attempt here to do.”).

⁸ As noted above, Affymax later assigned the ‘716 patent to Affymetrix. (Exh. 4.)

validity of that patent. *See Diamond Scientific*, 848 F.2d at 1226 (“When the inventor-assignor has signed the Oath, Power of Attorney and Petition, which attests to his belief in the validity of the patents, and has assigned the patent rights to another for valuable consideration, he should be estopped from defending patent infringement claims by proving that what he assigned was worthless.”).

3. Illumina is in Privity with Dr. Chee and is also Estopped From Challenging the Validity of the ‘716 Patent

The doctrine of assignor estoppel “also operates to bar other parties in privity with the assignor, such as a corporation founded by the assignor,” from contesting the validity of assigned patents. *Diamond Scientific*, 848 F.2d at 1224. “Whether two parties are in privity depends on the nature of their relationship in light of the alleged infringement.” *Mentor Graphics*, 150 F.3d at 1379. As the Federal Circuit has recognized, the closer the relationship between the assignor (*i.e.*, Dr. Chee) and his new company (*i.e.*, Illumina), the more appropriate it is to apply the doctrine of assignor estoppel against the company:

Privity, like the doctrine of assignor estoppel itself, is determined upon a balance of the equities. If an inventor assigns his invention to his employer company A and leaves to join company B, whether company B is in privity and thus bound by the doctrine will depend on the equities dictated by the relationship between the inventor and company B in light of the act of infringement. The closer that relationship, the more the equities will favor applying the doctrine to company B.

Shamrock Techs., 903 F.2d at 793.

The Federal Circuit’s analysis of the privity issue in *Shamrock Techs.* is directly applicable to this case. In *Shamrock Techs.*, the assignor/inventor, Mr. Luniewski, was employed by Shamrock Technologies. During that employment, Mr. Luniewski invented an apparatus and method for processing polytetrafluoroethylene (“PTFE”) with radiation. He assigned his rights in that invention to Shamrock. Mr. Luniewski then left Shamrock and joined

MSI as a Vice President in charge of Operations. Thereafter, Shamrock sued MSI for infringing the patents which covered Mr. Luniewski's invention by processing PTFE with radiation. MSI counterclaimed for a declaration of invalidity of those patents and asserted an affirmative defense of invalidity. The district court granted Shamrock's motion to strike the affirmative defense and to dismiss the counterclaim, holding that MSI was in privity with Mr. Luniewski for purposes of the assignor estoppel doctrine. *Id.* at 790.

In affirming the district court's decision, the Federal Circuit emphasized the close connections between MSI and Mr. Luniewski. *See id.* at 794. For example, the court pointed to Mr. Luniewski's ownership of 50,000 shares of MSI stock, his oversight of MSI's infringing operations, and his role as a Vice President. *Id.* According to the Federal Circuit, "Luniewski was far more than a mere employee of MSI and the undisputed facts establish MSI's direct involvement of Luniewski in MSI's infringing operations. MSI clearly availed itself of Luniewski's 'knowledge and assistance' to conduct infringement." *Id.* (quoting *Mellor v. Carroll*, 141 F. 992, 994 (C.C.D. Mass. 1905)). Given the close relationship between Mr. Luniewski and MSI, the Federal Circuit determined that MSI was subject to assignor estoppel. This finding of privity between Mr. Luniewski and his new company is consistent with similar analyses in other assignor estoppel cases. *See, e.g., Carroll Touch, Inc. v. Electro Mech. Sys., Inc.*, 15 F.3d 1573, 1579-80 (Fed. Cir. 1993) (recognizing privity between inventor/assignor and company of which he was the founder, president, principal executive officer, and owner of a controlling interest in); *Intel Corp. v. United States Int'l Trade Comm'n*, 946 F.2d 821, 839 (Fed. Cir. 1991) (finding privity between inventor/assignor and company with which inventor/assignor's company participated in a joint development program); *Diamond Scientific*, 848 F.2d at 1222-27 (finding privity between inventor/assignor and new company that he

founded); *Synopsys, Inc. v. Magma Design Automation, Inc.*, 2005 WL 1562779, at *8 (N.D. Cal. July 1, 2005) (granting assignor estoppel summary judgment motion and finding privity where inventor had “at least some role in developing the allegedly infringing portions of the [accused] products”).

The undisputed facts in this action present an even more compelling case for the applicability of assignor estoppel to Illumina. Dr. Chee left Affymetrix and founded Illumina, a direct competitor.

REDACTED

As a founder, Dr. Chee was rewarded with a large financial interest in Illumina – he received over 900,000 shares of Illumina stock, making him the second largest individual shareholder. (Exh. 7; Exh. 2, Chee Depo. at 181:2-8.); *see Shamrock Techs.*, 903 F.2d at 794 (emphasizing in the privity analysis that the inventor/assignor owned 50,000 shares of MSI stock).

REDACTED

Therefore, should Illumina be allowed to challenge the validity of the ‘716 patent, Dr. Chee “will have profited both by his initial assignment of the patent applications and by [Illumina’s] later attack on the value of the very subjects of his earlier assignment.” *Diamond Scientific*, 848 F.2d at 1225. The doctrine of assignor estoppel is designed to prohibit such an inequity.

Beyond his role as a founder of Illumina, Dr. Chee made significant contributions to Illumina’s technology, including the products accused of infringing the ‘716 patent. He served as Vice President of Genomics for four years and, in that position, played a key role in developing the infringing technology. *See Intel*, 946 F.2d at 839 (“What is significant is whether

the ultimate infringer availed itself of the inventor's 'knowledge and assistance' to conduct infringement.''). He is a named inventor on 14 of Illumina's 20 issued United States patents. These patents relate to various aspects of Illumina's technology, including DNA microarrays and the decoding process.

REDACTED

Illumina's DNA microarrays and related decoding method are critical parts of the technology that infringes the '716 patent. Without them, there would be no meaningful probe intensities for the software to compare.

REDACTED

REDACTED

See Cedarapids, Inc. v. Johnson

Crushers Int'l, Inc., 2005 WL 2086755, at *5 (M.D. Tenn. Aug. 26, 2005) (finding that the accused infringer's hiring of several former employees of the patentee weighs in favor of finding privity between the inventor and the accused infringer in the assignor estoppel analysis).

REDACTED

REDACTED

These undisputed facts confirm that Illumina “availed itself of the inventor’s ‘knowledge and assistance’ to conduct infringement.” *Intel*, 946 F.2d at 839.

REDACTED

This case, where Dr. Chee was “far more than a mere employee” and had “direct involvement . . . in [Illumina’s] infringing operations,” presents precisely the situation where courts find privity between an accused infringer and an inventor. *Shamrock Techs.*, 903 F.2d at 794. The balance of the equities weighs in favor of estopping Illumina from challenging the validity of the ‘716 patent.⁹

⁹ Based on the parties’ previous briefing of this issue, Affymetrix believes that Illumina will, once again, argue that Dr. Chee was not directly involved in the final commercial development of the accused products. (D.I. 20 at 12.) As discussed above, the discovery in this case has shown this to be untrue – in fact, REDACTED

In addition, there is no support for the proposition that an accused infringer can escape the application of assignor estoppel by “walling off” an inventor from the final stages of commercial development. Obviously, final commercial products are not developed in a vacuum – they build on the technology that has been developed in the pre-commercial stage of the company. REDACTED

IV. CONCLUSION

For the foregoing reasons, Affymetrix respectfully requests that the Court grant summary adjudication on Count II of Illumina's Counterclaims insofar as it seeks a declaration of invalidity and unenforceability of the '716 patent. Affymetrix also respectfully requests that the Court grant summary adjudication on Illumina's Third Affirmative Defense (Invalidity) and Seventh Affirmative Defense (Inequitable Conduct) as they apply to the '716 patent.

MORRIS, NICHOLS, ARSHT & TUNNELL LLP

/s/ Maryellen Noreika

Jack B. Blumenfeld (#1014)

Maryellen Noreika (#3208)

1201 N. Market Street

P.O. Box 1347

Wilmington, DE 19899-1347

(302) 658-9200

*Attorneys for Plaintiff/Counter-Defendant
Affymetrix, Inc.*

OF COUNSEL:

Michael J. Malecek

Daniel R. Reed

George C. Yu

Andrea Gross

AFFYMETRIX, INC.

6550 Vallejo Street, Suite 100

Emeryville, CA 94608

(510) 428-8500

Original Filing Date: July 7, 2006

Redacted Filing Date: July 24, 2006

CERTIFICATE OF SERVICE

I hereby certify that on July 24, 2006, I electronically filed the foregoing document using CM/ECF which will send notification of such filing(s) to the following:

Richard K. Herrmann
Morris, James, Hitchens & Williams LLP

I also certify that copies were caused to be served on July 24, 2006 upon the following in the manner indicated:

BY HAND

Richard K. Herrmann
Morris, James, Hitchens & Williams LLP
222 Delaware Avenue, 10th Floor
P.O. Box 2306
Wilmington, DE 19899-2306

BY EMAIL AND FEDERAL EXPRESS

Marcus E. Sernel
Kirkland & Ellis LLP
200 East Randolph Drive
Chicago, IL 60601

/s/ Maryellen Noreika
Maryellen Noreika (#4601)
1201 N. Market Street
P. O. Box 1347
Wilmington, DE 19899-1347
(302) 658-9200
mnoreika@mnat.com